

Identifying the reasons for coordination failure in a laboratory experiment: Online Appendix

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1 Instructions

Welcome to this experiment in economic decision making. It will take approximately 60 minutes. First of all, please check that the number on the card handed to you matches the number on the cubicle that you are seated in and that your mobile phones are turned off.

Before we start, we will explain the rules of this experiment. You will also find these rules on the paper provided, so you can read along and check again during the experiment. If you have any questions, please do not speak up but raise your hand and we will come to you and answer your question privately.

From now on, please do not talk, and listen carefully. In this experiment you will earn a minimum of £3, and potentially up to £18. How much money you earn will depend on your decisions and those of the other participants. Your reward will be paid out at the end of the experiment. None of the other participants will know how much money you made.

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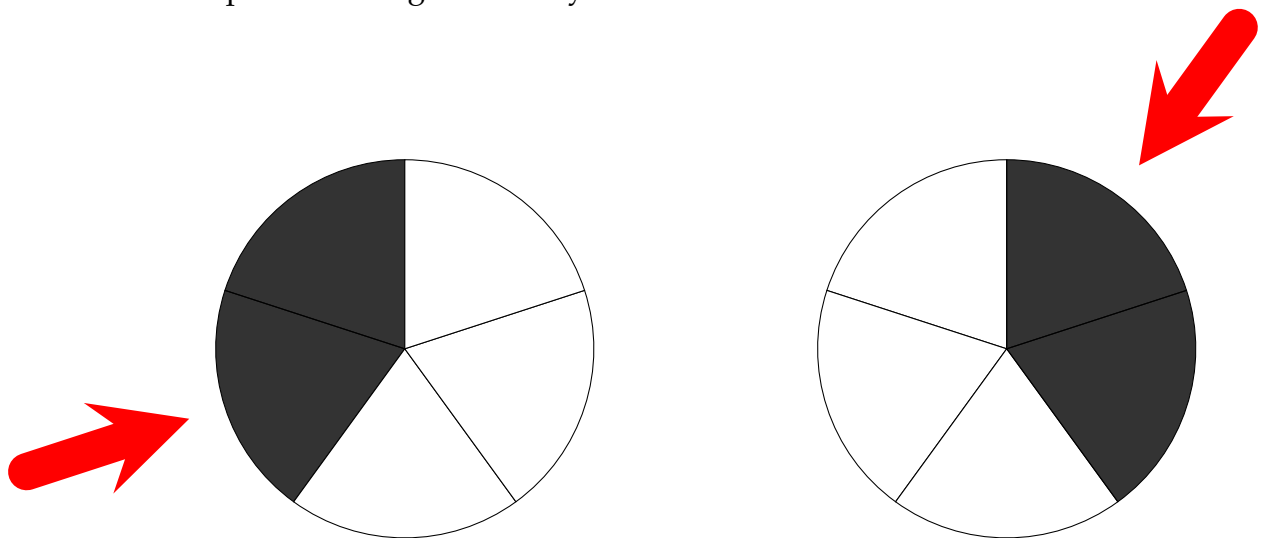
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In this experiment you will be asked to make decisions related to a disc that has 5 sectors, similar to the disc provided to you. The disc has two identical sides. Your goal will be to pick the same sector twice (more on that later). During this experiment the disc will be flipped and/or rotated randomly.

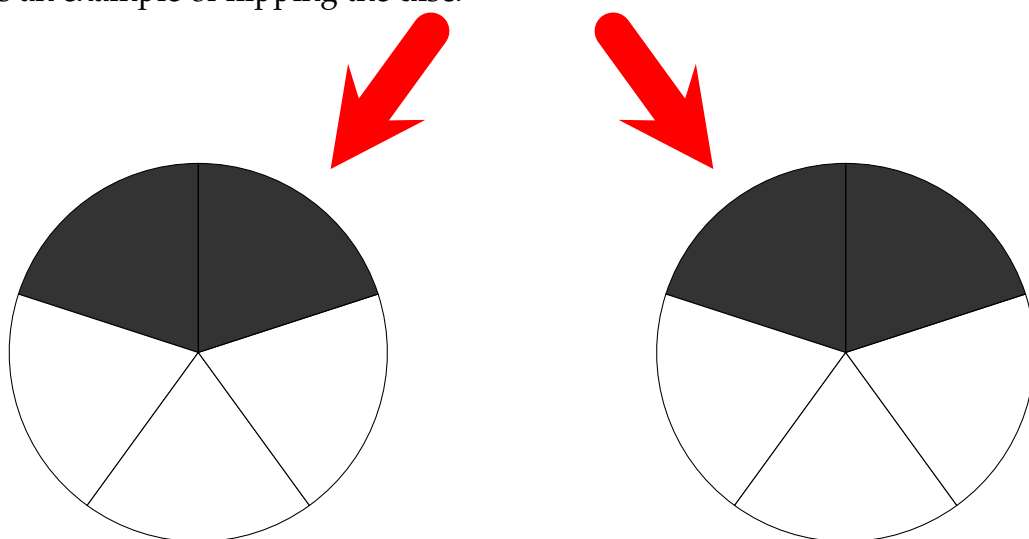
Pictures on page 2 illustrate rotation and flipping. Since you will not be told if the disc was flipped and/or rotated, it might even be the case that disc looks exactly the same though sectors have changed their positions.

The arrow tracks one specific sector that changes its position as the disc is rotated and/or flipped.

This is an example of rotating the disc by two sectors:



This is an example of flipping the disc:



In the experiment the disc will be surrounded by the letters A, B, C, D, and E. **These**

labels are not part of the disc! They are only included to allow you to choose a sector.

In the experiment you will make decisions in the following environments (the order will be chosen randomly):

(Self Game) You will be asked to pick a sector twice; first you choose a sector; then the disc might be flipped and/or rotated. After this you are shown the same disc and have to choose a sector again. You will not observe the flipping/rotation of the disc. If you manage to guess the same sector twice, your payoff will be £5. Otherwise, you will receive 0. Therefore, to earn more money you want to maximise your chances to pick the same sector twice.

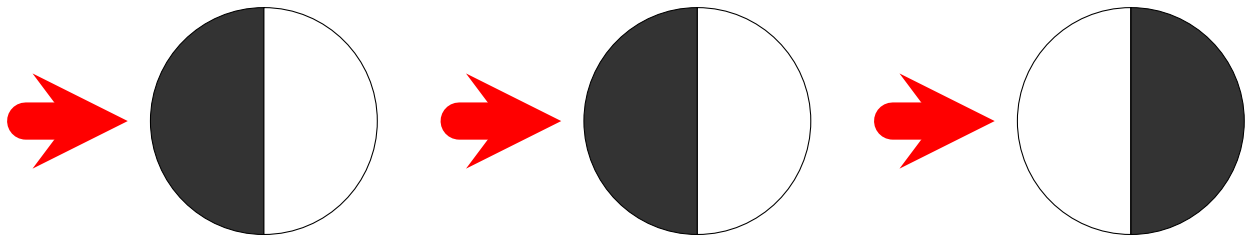
Here is an example of the choices made in a **Self Game**, using a simpler disc with only 2 instead of 5 sectors:



First you picked the black sector; then you picked the black sector again. Therefore, you pick the same sector twice and earn £5.

(Prediction Game) You are matched randomly with another person and you have to guess the choice of this person, while she plays the **Self Game**. First, you choose a sector on the disc; each time the other person picks the sector you chose, you will receive £2.5. As the other player picks twice in the **Self Game**, you can earn £0, £2.5 or £5 in this situation, depending on your and the other person's choice. Therefore, to earn more money you want to guess what the other player is playing in the **Self Game** described above.

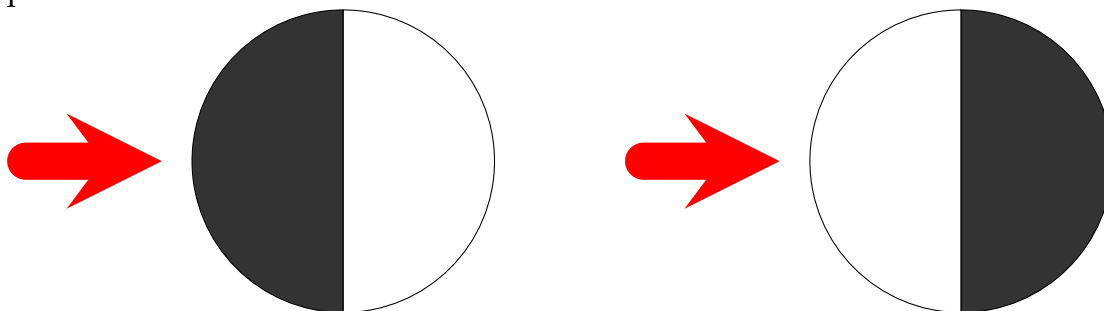
Here is an example of the choices made in a **Prediction Game**, again with the simpler disc:



First you picked the black sector. The other player then plays the **Self Game**. He first picks the black sector and therefore you earn £2.5. Then he picks the white sector and therefore you earn £0. Thus you earn £2.5 in total.

(**Coordination Game**) You are matched randomly with another person and both of you are asked to pick a sector on the disc simultaneously. Both of you know that you play the **Coordination Game**. You both see the same disc but possibly differently flipped and rotated. If both of you pick the same sector, then your payoff will be £5. Otherwise, you will receive £0. Therefore, to earn more money you want to guess the sector your partner is picking here, while he is trying to do the same.

Here is an example of the choices made in a **Coordination Game**, again with the simpler disc.



You picked the black sector. The other player picked the white sector. You therefore failed to coordinate and both of you earn £0 each.

The experiment consists of two periods. Each period consists of the three games as described above, using a 5-sector disc; the order of the games is random. At the end of the experiment one of the two periods will be randomly chosen. The earnings made in this period will be paid out in cash.

Again, please do not talk during this experiment! If you have questions just raise your hand.

Before the experiment there will be a quiz to check your understanding. Read hints carefully if you get stuck during the quiz.

2 Quiz

In this appendix you can find screenshots of the quiz which was conducted before the experiment. Participants who made a mistake in some part of the quiz were given a small hint and then were asked to repeat this part of the quiz.

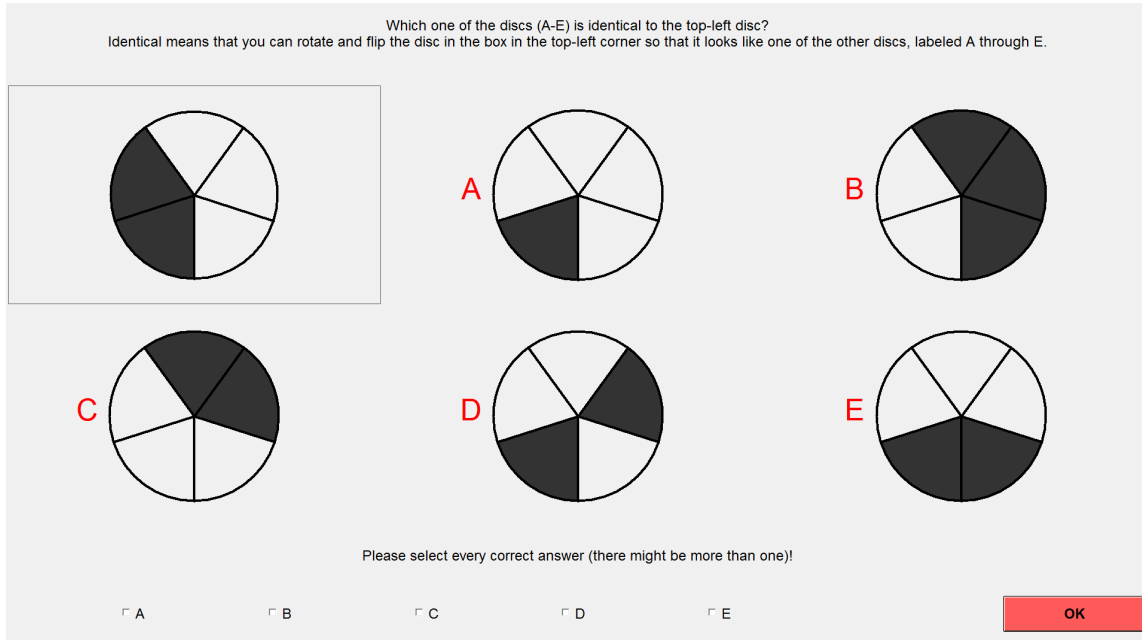


Figure 1: Quiz part 1

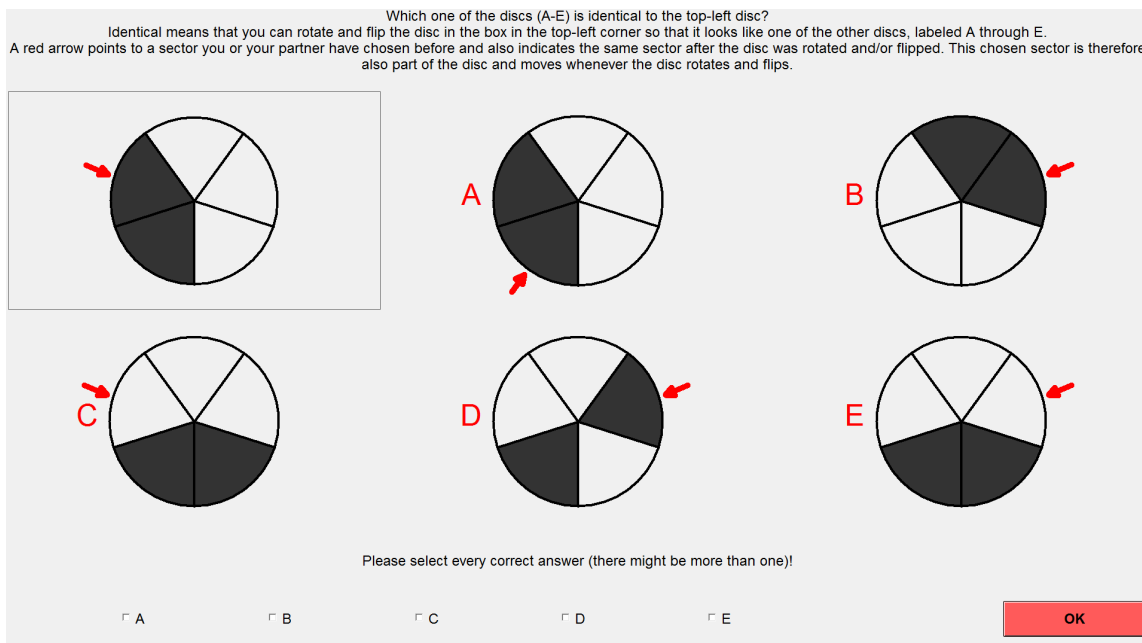


Figure 2: Quiz part 2

Assume you are playing the **Self Game** and you have chosen the same sector twice.

1) How much Pound will you get for this game?

Assume you and a random partner are playing the **Coordination Game** together and both of you have each picked a **different sector** of the same color.

2) How much Pound will you get for this game?

3) How much Pound will he get for this game?

Assume you are playing the **Guessing Game**. The participant you are observing is therefore playing the **Self Game**. He picked the same sector twice but you failed to pick the sector he picked.

4) How much Pound will you get for this game?

5) How much Pound will he get for this game?

Now imagine the same situation but this time you managed to pick the same sector he picked twice.

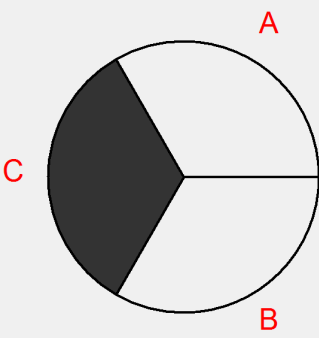
6) How much Pound will you get for this game?

7) How much Pound will he get for this game?

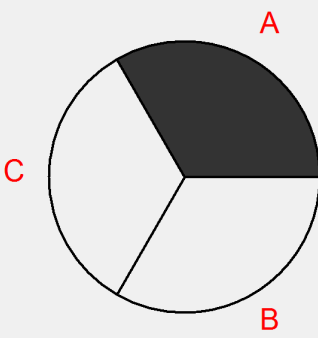
Figure 3: Quiz part 3

We are now going to test your knowledge of the **Self Game** as described in the instructions with an easier version of the disc. Remember, the labels (A-C) are not part of the disc.

First Round :



Second Round :



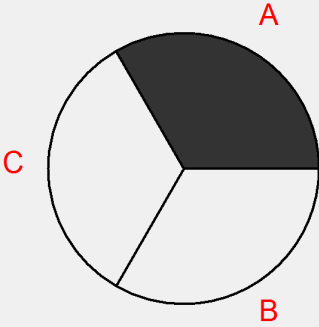
Assume you have chosen **sector C** (the black sector) in the first round (in the picture on the left). Where could your chosen sector be in the second round (in the picture on the right)? Please select every correct answer (there might be more than one)!

A B C

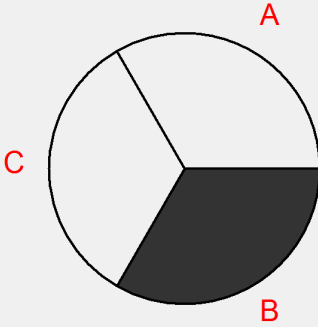
Figure 4: Quiz part 4

We are now going to test your knowledge of the **Self Game** as described in the instructions with an easier version of the disc. Remember, the labels (A-C) are not part of the disc.

First Round :



Second Round :

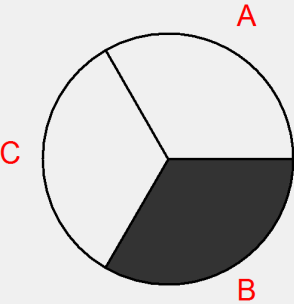


Assume you have chosen **sector C** (one of the white sectors) in the first round (in the picture on the left). Where could your chosen sector be in the second round (in the picture on the right)? Please select every correct answer (there might be more than one)!

A B C

Figure 5: Quiz part 5

We are now going to test your knowledge of the **Guessing Game** as described in the instructions with an easier version of the disc. Assume you have observed the choices of the other player (which will not be possible in the experiment) and he has chosen a black sector twice.

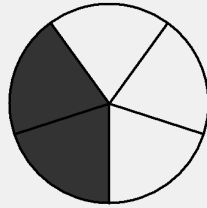


Now you are presented this disc and you are playing the **Guessing Game**.

<p>Assume you have chosen sector A (a white sector). What are your possible payoffs for this round?</p> <p><input type="radio"/> 0 Pounds <input type="radio"/> 2.5 Pounds <input type="radio"/> 5 Pounds</p>	<p>Now assume you have chosen sector B (the black sector). What are your possible payoffs for this round?!</p> <p><input type="radio"/> 0 Pounds <input type="radio"/> 2.5 Pounds <input type="radio"/> 5 Pounds</p>
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Figure 6: Quiz part 6

We are now going to test your knowledge of the **Coordination Game** as described in the instructions. Assume you are playing this game with the five sector disc below.



Assume you know that your partner has chosen a **black sector**.

What is the probability of winning if you choose a black sector?

- 0% (no chance)
- 20% (a 1 in 5 chance)
- 33% (a 1 in 3 chance)
- 50% (a 1 in 2 chance)
- 100%

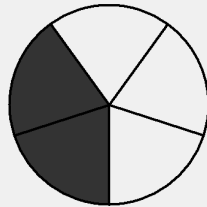
What is the probability of winning if you choose a white sector?

- 0% (no chance)
- 20% (a 1 in 5 chance)
- 33% (a 1 in 3 chance)
- 50% (a 1 in 2 chance)
- 100%

OK

Figure 7: Quiz part 7

We are now going to test your knowledge of the **Coordination Game** as described in the instructions. Assume you are playing this game with the five sector disc below.



Assume you know that your partner has chosen a **white sector**.

What is the probability of winning if you choose a black sector?

- 0% (no chance)
- 20% (a 1 in 5 chance)
- 33% (a 1 in 3 chance)
- 50% (a 1 in 2 chance)
- 100%

What is the probability of winning if you choose a white sector?

- 0% (no chance)
- 20% (a 1 in 5 chance)
- 33% (a 1 in 3 chance)
- 50% (a 1 in 2 chance)
- 100%

OK

Figure 8: Quiz part 8